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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/695,726 | 10/23/2000 | Shing M. Lee | KLAIP012 | 2746 |

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EXAMINER

FERNANDEZ, KALIMAH

ART UNIT PAPER NUMBER

2881

DATE MAILED: 12/21/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,726

Applicant(s)

LEE, SHING M.

Examiner

Kalimah Fernandez

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,7, 11 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 4777364 issued to Sartore.

2. Sartore discloses an EDXA apparatus having electron beam source (14), which impinges a stacked film to produce x-rays (col.2, lines 47-68).

1. Sartore discloses causing said electron beam to penetrate a specimen having a metallic layer (i.e. aluminum) and an insulating layer (col.3, lines 19-49).

2. Sartore discloses an X-ray detector (16), which is positioned above said specimen (see fig. 1).

3. As per claim 7, Sartore discloses a computer (17) linked to the beam generator (15) and the detector (16) (see fig.1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5,6,10-15, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sartore and in view of US Pat No 4885465 issued to Nagatsuka et al.

5. Sartore teaches an energy dispersive detector not a wavelength.

6. It is held that an ordinary skilled artisan would have obvious motivation to incorporate a wavelength dispersive detector, since the selection of an energy via wavelength dispersive detector falls within ordinary skill in the art.

7. Furthermore, Nagatsuka teaches the widely known difference between the types of detectors (col.1, lines 5-46).

8. In addition, Nagatsuka discloses a X-ray analyzer having a electron beam gun (1), which generates an electron beam. Said beam is causes to impinge a sample (5), which produces x-ray, which are detected by WDS detector (9).

9. Nagatsuka discloses the detection of x-rays in a specific wavelength range (col.2, lines 37-40). Nagatsuka discloses employing an analyzing crystal (i.e. reflective surface) to direct x-ray to the detector.

10. As per claims 5,10 and 15, Nagatsuka teaches two detectors (9) and (13), whereas detector (13) is defined as an energy dispersive detector.

11. Nagatsuka does not teach the use of two detectors, in which both are wavelength dispersive detectors. However, it is not inventive to include a second wavelength dispersive detector as claimed, since such a modification amounts to a mere duplication of parts.

12. Therefore, the limitation of two wavelength dispersive detectors does not render the claimed invention patentably of Nagatsuka.

13. Furthermore, applicant illustrates that the incorporation of more than detector requires only routine skill in the art in his fig.3, in which a detection system employs a number of detectors. Therefore, applicant's specification aids in the conclusion that the claimed invention is an obvious variant of Nagatsuka.

14. Claims 7-9, 16, and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatsuka et al as applied to claim 1 above, and further in view of ~~US Pat No 5656812 issued to~~ US Pat No 5594246 issued to Sudo et al.

15. The claimed invention has been discussed expect for controlling the electron beam current and energy.

16. It is widely known and expected in the art that primary beam current and acceleration energy affects the penetration depth. Therefore, it is neither novel nor non-obvious to implement this limitation, since it encapsulate generally available knowledge and Nagatsuka' disclosure of a processing unit renders said limitation obvious.

17. Furthermore, Sudo is relied upon to illustrate that controlling the acceleration energy and current is known (see col. 14, lines 4-21).

18. In regards to limitation of a comparison of measured data to known/predicted data, Nagatsuka teaches comparing the measured/collected spectra to predicted spectra to determine the composition of a sample (col.3, lines 32-61).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 703-

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305-6310. The examiner can normally be reached on Mon-Fri between 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dzierzynski can be reached on 703-308-4822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

kf
December 17, 2001


JACK BERMAN
PRIMARY EXAMINER